

IN THE CLAIMS:

Please cancel claims 1-35 without prejudice, and add the following new claims 36-55:

1.-35. (canceled)

36. (new) A medical system, comprising:

an elongated flexible catheter comprising a catheter distal end; and

an elongated flexible sheath comprising an open sheath distal end, an internal lumen configured to house said catheter, one or more skives located on an inner surface of said sheath distal end in fluid communication with said internal lumen, and one or more fluid exit ports located on said sheath distal end in fluid communication with said one or more skives, wherein said one or more fluid exit ports are configured to perfuse fluid in a substantially distal direction over said catheter distal end when said catheter distal end protrudes from said open sheath distal end.

37. (new) The medical system of claim 36, wherein said inner surface of said sheath distal end substantially forms a seal with an outer surface of said catheter distal end.

38. (new) The medical system of claim 36, wherein said one or more fluid exit ports comprise a plurality of fluid exit ports.

39. (new) The medical system of claim 36, wherein said catheter is an ablation catheter having a distally mounted ablation electrode.

40. (new) The medical system of claim 36, further comprising a catheter locking mechanism configured for axially fixing said catheter relative to said sheath.

41. (new) The medical system of claim 40, wherein said catheter locking mechanism comprises an annular ridge located on one of said catheter and said sheath, and an annular indentation located on the other of said catheter and said sheath, said annular ridge and said annular indentation configured for engaging each other when said catheter is advanced through said internal lumen of said sheath.

42. (new) The medical system of claim 36, further comprising an irrigation fluid system in fluid communication with said internal lumen.

43. (new) The medical system of claim 42, wherein said irrigation fluid system comprises a source of irrigation fluid and a pump for conveying said irrigation fluid under pressure to said one or more fluid exit ports.

44. (new) The medical system of claim 42, wherein said irrigation fluid system comprises a source of another fluid that can be conveyed under pressure to said one or more fluid exit ports.

45. (new) The medical system of claim 42, wherein said source of irrigation fluid is a source of cooled irrigation fluid.

46. (new) The medical system of claim 36, wherein a proximal end of said sheath comprises a hemostasis valve.

47. (new) The medical system of claim 36, wherein said sheath distal end is steerable.

48. (new) The medical system of claim 36, wherein said sheath is an intravascular sheath, and said catheter is an intravascular catheter.

49. (new) A medical guide sheath for use with an elongated flexible catheter, comprising:

an elongated flexible sheath body having an open distal end;

an internal lumen formed within said sheath body and being configured for housing the catheter;

one or more skives located on an inner surface of said sheath distal end in fluid communication with said internal lumen.

50. (new) The medical guide sheath of claim 49, further comprising one or more fluid exit ports in fluid communication with said one or more skives, said one or more fluid exits ports configured to perfuse fluid in a substantially distal direction.

51. (new) The medical guide sheath of claim 49, wherein said one or more fluid exit ports comprises a plurality of fluid exit ports.

52. (new) The medical guide sheath of claim 49, further comprising a hemostasis valve mounted on a proximal end of said sheath body.

53. (new) The medical guide sheath of claim 49, wherein said open distal end is steerable.

54. (new) The medical guide sheath of claim 49, further comprising one or more fluid exit ports located on said sheath distal end in fluid communication with said one or more skives, wherein said one or more fluid exit ports are configured to perfuse fluid in a substantially distal direction.

55. (new) The medical guide sheath of claim 49, wherein said guide sheath is an intravascular sheath.